



Mathematics: Units 2C and 2D Formula sheet

Number and algebra: Estimation and calculation

For any number a and integers m and n ,

$$a^m a^n = a^{m+n}$$

$$a^m \div a^n = a^{m-n}$$

Space and measurement: Measurement

Triangle: Area = $\frac{1}{2} \times \text{base} \times \text{height}$

Parallelogram: Area = base \times height

Trapezium: Area = $\frac{1}{2} (a + b) \times \text{height}$, where a and b are the lengths of the parallel sides

In a right triangle: $\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}}$ $\cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}$ $\tan \theta = \frac{\text{opposite}}{\text{adjacent}}$

In any triangle ABC ,

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\text{Area} = \frac{1}{2} ab \sin C$$

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$

Space and measurement: Coordinate geometry

Gradient of line, m , through the points (x_1, y_1) and (x_2, y_2) is given by $m = \frac{y_2 - y_1}{x_2 - x_1}$.

Distance, d , between the points (x_1, y_1) and (x_2, y_2) is given by $d = \sqrt{(y_2 - y_1)^2 + (x_2 - x_1)^2}$.

Lines are perpendicular if $m_1 \times m_2 = -1$

Chance and Data: Quantify chance

$$P(A) + P(\bar{A}) = 1$$

Note: Any additional formulas identified by the examination panel as necessary will be included in the body of the particular question.

